109 FERC ¶ 61,105

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Pat Wood, III, Chairman;
Nora Mead Brownell, Joseph T. Kelliher,
and Suedeen G. Kelly.

Gustavus Electric Company Project No. 11659-002

ORDER ISSUING LICENSE

(Issued October 29, 2004)

1. On October 23, 2001, Gustavus Electric Company (Gustavus) filed an application for an original license, pursuant to section 4(e) of the Federal Power Act (FPA),[1] for the construction, operation, and maintenance of the 800-kilowatt (kW) Falls Creek Project No. 11659. The project would be located on lands that are currently within Glacier Bay National Park and Preserve (GBNPP), but which would be transferred to the State of Alaska (Alaska) in exchange for certain other lands currently owned by Alaska, pursuant to project-specific legislation, the Glacier Bay National Park Boundary Adjustment Act of 1998 (Boundary Act).[2] In this order we find that the project proposal is in the public interest and satisfies the requirements of the Boundary Act. We are therefore issuing a license for the project. This order is in the public interest because it provides for the development of a reliable supply of energy at a predictable price to serve a community that is not interconnected to a transmission grid.

BACKGROUND

A. Project Facilities and Operations

2. The proposed Falls Creek Project would be located about five miles east of the town of Gustavus. It would be located on Falls Creek, which is also known as the Kahtaheena River. The project would consist of an approximately 70-foot-long and ten-foot-high diversion dam and intake structure; a 9,400-foot-long water conveyance

[1] 16 U.S.C. § 797(e).

[2] Public Law 105-317 (Oct. 30, 1998).

pipeline and penstock; a powerhouse containing a single, 800-kW turbine; and five miles of buried transmission line connecting the powerhouse to a substation located at Gustavus's existing diesel electric plant.

3. The project would be operated in a run-of-river mode, where inflow to the project matches outflow downstream of the project. The project diversion would be located at river mile (RM) 2.4 of the Kahtaheena River. The powerhouse would be located at RM 0.45. The approximately 1.7-mile-long bypassed reach has two waterfalls, each exceeding 40 feet in height. The lower waterfall is impassable to anadromous (upstream migrating) fish. The bypassed reach would be subject to a minimum flow requirement. The Kahtaheena River drains into Icy Passage, which is located several miles east of the mouth of Glacier Bay.[3] A detailed description of the proposed project as licensed is contained in Ordering Paragraph (B) below.

B. The Boundary Act

4. The lands proposed by Gustavus to be used for the project are currently located in GBNPP and are designated as part of the National Wilderness Preservation System. The Commission's ability to issue an original license for a project located in whole or part within a national park is severely constrained.[4] In 1998, however, Congress enacted the Boundary Act, which, if the conditions therein are satisfied, and the project meets the requirements of the FPA, authorizes the Commission to issue a license for the project.

5. In brief, a parcel of land within GBNPP that is currently designated as National Wilderness System land would be removed from GBNPP and conveyed to Alaska. The exact size of this parcel remains to be determined by NPS and Alaska. Within this parcel are the lands on which the project facilities would be located. For its part, Alaska would convey to the United States certain state-owned lands for inclusion in the National Park System. In order to ensure that the amount of lands within the National Wilderness

[3] The locations of the proposed project and action alternatives are shown on Figures 2-1 to 2-9 at pages A-9 to A-17 of the environmental impact statement prepared in this proceeding.

[4] *See* discussion in *James River II, Inc.*, 53 FERC ¶ 61,096 at 61,263-65 (1990). *See also* section 2402 of the National Energy Policy Act of 1992, Pub. L. 102-486, 106 Stat. 3096 (Oct. 24, 1991), which prohibits the Commission from issuing an original license for a project located in a national park if it would have a direct adverse impact on federal lands within the National Park System.

System is not diminished, the Boundary Act also requires the Secretary of the Interior to designate certain other federal lands as wilderness lands.

1. The Land Exchange

6. The Boundary Act establishes conditions for a land exchange between the United States and Alaska that, if completed, will transfer title to lands on which the project would be located from GBNPP to Alaska. The lands to be conveyed to the United States from Alaska are to be determined by mutual agreement of the Secretary of the Interior (Secretary) and Alaska.[5] The lands to be conveyed to Alaska from the United States are also to be designated by the Secretary and Alaska, consistent with sound land management principles, based on lands identified by the Commission, with the concurrence of the Secretary and Alaska, to be the minimum amount of land necessary for the construction and operation of a hydroelectric project.[6]

7. The land exchange is intended to occur no later than six months after the issuance of a license to Gustavus.[7] The Secretary may, however, extend the time period for completion of the land exchange if that is necessary in order for it to be completed.[8]

8. The Boundary Act includes provisions to ensure that the land exchange maintains within the National Wilderness Preservation System approximately the same area currently designated as wilderness. To that end, it requires the Secretary, upon consummation of the land exchange, to designate certain lands located in GBNPP as wilderness and to administer those lands according to the laws governing national wilderness areas in Alaska.[9]

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[5] Section 2(a)(1). Section 2(a)(3) provides that if Alaska and the Secretary are not able to agree on the lands to be conveyed to the United States within six months from license issuance, then the United States may accept, within one year of license issuance, and subject to the provisions of the laws pertaining to the exchange of lands managed as part of the National Park System in Alaska, title to lands of equal value to the land required for the project.

[6] Sections 2(a)(1) and (4).

[7] Section 2(a)(1).

[8] Section 2(a)(5).

[9] Section 2(b).

9. The Boundary Act also provides that the land exchange may occur only if the Commission conducts economic and environmental analyses that conclude, with the concurrence of the Secretary, that the construction and operation of the project on the lands to be transferred to Alaska:

- will not adversely impact the purposes and values of GBNPP as constituted after the consummation of the land exchange; and

- will comply with the requirements of the National Historic Preservation Act.[10]

10. In addition, the land exchange may only occur if the Commission concludes that construction and operation of the project can be accomplished in an economically feasible manner. The Secretary's concurrence is not required for this conclusion.[11]

2. The Commission's Licensing Responsibilities

11. The Boundary Act specifically authorizes the Commission to accept and consider a license application from Gustavus to construct and operate the project on specified lands currently within the GBNPP, and requires it to retain jurisdiction over any such project.[12] As noted above, the Commission must also determine, with the concurrence of the Secretary and Alaska, the minimum amount of lands necessary for construction and operation of the project.[13]

12. The National Park Service (NPS) is to be a joint lead agency for the development of any environmental documents prepared with respect to the project under the National Environmental Policy Act of 1969 (NEPA).[14] The environmental documents must consider the impacts from licensing and any land exchange necessary to authorize the project.[15]

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[10] Sections 2(c)(1)(A) and (B).

[11] Section 2(c)(1)(C).

[12] Section 3(a)(2) and (3).

[13] Section 3(b)(3).

[14] 42 U.S.C. § 4321, *et seq*.

[15] Section 3(b)(4).

13. The Commission is prohibited from licensing or relicensing the project, or from amending the project license, unless it determines, with the Secretary's concurrence, that the project will not adversely impact the purposes and values of GBNPP (as constituted after consummation of the land exchange).[16] Any license issued must include: (1) a condition requiring the licensee to mitigate any adverse effects of the project on the purposes and values of GBNPP identified by the Secretary following issuance of the original license;[17] (2) a condition that construction of any part of the project cannot commence until the land exchange is completed;[18] and (3) a condition providing that no construction may commence until Gustavus has received Commission approval of a financing plan.[19]

C. The License Application

14. On October 23, 2001, Gustavus filed a license application which was prepared using the Commission's alternative licensing procedures (ALP).[20] On December 11, 2001, the Commission issued a notice accepting Gustavus' license application and requesting interventions and comments, recommendations, terms and conditions, and prescriptions.[21] Motions to intervene or protests were filed by the Alaska Department of Fish and Game (ADFG), Alaska Department of Natural Resources (ADNR), National Marine Fisheries Service within the U.S. Department of Commerce (NOAA Fisheries), the Sierra Club and others (Sierra Club),[22] Wilderness Society and Hoonah Indian

[16] Section 3(c)(3).

[17] Section 3(c)(3).

[18] Section 3(c)(4).

[19] Section 3(c)(1). *See* license Article 400.

[20] *See* 18 C.F.R. § 4.34(i) (2004).

[21] 66 Fed. Reg. 65,203-04 (Dec. 18, 2001).

[22] Sierra Club filed jointly with Trout Unlimited, American Rivers, National Parks Conservation Association, and Glacier Bay's Bear Track Inn.

Association (Wilderness /Hoonah), Thomas L. and Patrick G. Mills (Mills), and Sophie and Diane McKinley (McKinley).[23] The application is opposed by Sierra Club, Wilderness/Hoonah, Mills, and McKinley.

15. The U.S. Department of the Interior (Interior) filed comments, but did not intervene. Gustavus filed reply comments.

16. A draft Environmental Impact Statement (draft EIS) was issued jointly by the Commission and NPS on October 30, 2003, with comments due by January 6, 2004.[24] Comments were filed by numerous individuals and several organizations.[25] Most of those commenters who took a position on whether the project should be licensed were opposed, but several local residents filed favorable comments. Public meetings were held in Hoonah, Gustavus, Juneau, and Anchorage, Alaska, on December 8, 9, 10, and 11, 2003, respectively.

17. The final EIS (final EIS) was issued on July 1, 2004.[26]

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[23] The Wilderness Society/Hoonah, Mills, and McKinley motions were untimely filed. By notice issued September 13, 2004, the Commission granted their motions to intervene.

[24] 68 Fed. Reg. 63,085 (November 7, 2003).

[25] Timely comments on the draft EIS were filed by Jenny Pursell, Melanie Heacox, Kenneth Marchbanks, Eric Cutter, Sam Hanlon, Sr., Allison Banks, Wanda Culp, Ruth Niswander, Dave Westman, Robert B. Robertson, Lawrence E. Wilson, Lisa Mayo, Patricia Jones, Richard Spotts, Chad Schoen, John Spezia, Gustavus, Jim Edelson, Laurel Clarke, Jed Davis, Clifford E. Anderson, Professor and Mrs. Glen Schrank, State of Alaska, ANILCA Implementation Program, ADFG, Alaska Industrial Development and Export Authority, Sierra Club, Hoonah Indian Association, Chad Soitseth, Wayne Howell, Craig Wilson, Michael E. Bialis, Robert Markeloff, Edward Cahill, Robert Cherry, Don Duke, Wilderness Watch, Jim and Denise Healy, Karen Jettman, Bruce Kruger, William L. Kruger, Patricia Mooney, Gary Owen, David Pianeschi, Sam Rice, Joe Vanderzandez, United States Environmental Protection Agency, John Swanson, Robert E. Howe, William Patrick Lee, Sr., Friends of Glacier Bay, Donald D. and Martha V. Romero, Jeanie Farrell, and Tara Walker. In addition, over 400 identical form letters opposing the project were received by the Commission and NPS.

[26] 69 Fed. Reg. 41476 (July 9, 2004).

18. On August 19, 2004, the Commission issued a notice of its determinations that the proposal filed by Gustavus, modified pursuant to the recommendations in the final EIS, will not adversely impact the purposes and values of GBNPP as constituted after the consummation of the land exchange and will comply with the NHPA.[27] The August 19 Notice also determined the minimum amount of land necessary for the project. On August 24, 2004, the Commission sent letters to the Secretary and the Governor of Alaska seeking the concurrences required of each of them. The concurrences of the Secretary and the Governor were filed on September 22, 2004.

19. Also on September 22, 2004, comments on the determinations made pursuant to the Boundary Act and on the final EIS were jointly filed by Sierra Club, Wilderness/Hoonah, Mills and McKinley. For convenience, we refer to all of these entities, when filing jointly, as Sierra Club.

20. All comments and information filed by the agencies and interested parties have been fully considered and addressed in this order, in determining whether, and under what conditions, to issue this license.

DISCUSSION

A. Boundary Act Determinations

21. Sierra Club objects to our determination that Gustavus' proposal, as modified, will not adversely impact the purposes and values of GBNPP as constituted after the consummation of the land exchange. The purposes and values of GBNPP are to preserve and protect its forests, tidewater glaciers, natural, scenic, historic, archeological, geological, scientific, wilderness, cultural, recreational, and wildlife values and resources.[28]

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[27] *Gustavus Electric Company*, 108 FERC ¶ 61,198.

[28] *See* final EIS at 1-23 to 1-25. Glacier Bay National Monument was established and expanded by presidential proclamations in 1925 and 1939, and the Alaska National Interest Lands Conservation Act, 16 U.S.C. § 3101, *et seq*. (P.L. 96-487 (Dec. 2, 1980), 94 Stat. 2457 (ANILCA). Section 202(1) of ANILCA, 16 U.S.C. § 410hh-1 (1), added lands to Glacier Bay National Monument, established the Preserve, and renamed the monument Glacier Bay National Park.

22. Sierra Club contends that the final EIS confirms that the project would adversely impact these purposes and values because it would cause development on and increase access to lands adjacent to GBNPP as constituted following the exchange, and that in turn would cause increased access to and adverse impacts on the GBNPP.[29] These include impacts to wildlife by displacement of animals into GBNPP habitat that may already be occupied, increased poaching, and a general decline in wildlife habitat in the Gustavus area.[30] The final EIS acknowledges these potential impacts,[31] but finds that the effects on wildlife species and their habitat within GBNPP would be short-term and localized, and that the purposes and values of GBNPP relating to wildlife would not be materially diminished.[32] We agree with this finding.

23. Sierra Club disagrees. It states that even these potential minimal effects are inconsistent with Congress' intent that GBNPP be a "large sanctuary" for fish and wildlife.[33] We see no inconsistency. GBNPP includes about 3.3 million acres of land and water.[34] The final EIS identifies 1,145 acres of GBNPP land as potentially available for exchange to the state. Of this, approximately 100 acres will be required for the project facilities and a buffer zone. The lands exchanged to Alaska that are outside of the project boundary will be managed by Alaska for fish and wildlife.[35] The license also includes many environmental protection and mitigation measures, including Commission-approved plans to discourage activities that would disturb wildlife during

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[29] Final EIS at 2.

[30] *Citing* final EIS at 4-125 to 4-127.

[31] The final EIS finds, but Sierra Club does not acknowledge, that the potential for impacts to wildlife populations and habitat in the project vicinity over time would also result from population and economic activity increases in Alaska, which are not attributable to the project. *See* final EIS at 4-127.

[32] Final EIS at 4-128.

[33] *See* Report of the Senate Committee on Energy and Natural Resources together with additional views to accompany H.R. 39, at 137.

[34] www.nps.gov/glba/pphtml/facts/html.

[35] Final EIS at 4-198.

construction[36] and to limit access to the project access road throughout the life of the project.[37]

24. Section 101(b) of the Alaska National Interest Lands Conservation Act (ANILCA)[38] is a broad statement of Congress' purpose in enacting that legislation with respect to the protection of various natural resource values. Sierra Club asserts that Congress' intention in this regard to "preserve wilderness resources and related recreational opportunities . . . within large arctic and subarctic wildlands and on freeflowing rivers"[39] is violated by the land exchange and project because they would remove the Kahtaheena River area from GBNPP. The final EIS describes this area as a unique recreational resource in the GBNPP because it is relatively easily accessible to hikers who wish to visit a wilderness area with low and high elevation ecosystems, waterfall viewing, and old growth forest.[40] Sierra Club also alleges that the designation of other lands as wilderness is inadequate compensation for the loss of Kahtaheena River area wilderness lands because the lands which would be designated as wilderness lack the unique characteristics of the Kahtaheena River area. Finally, it asserts that effects from activities on the exchange land will spill over into adjacent GBNPP lands, reducing their value for wilderness recreation.[41]

25. These arguments are flawed for various reasons. First, section 2(c)(1)(A) of the Boundary Act clearly requires a finding that the project would not adversely impact the purposes and values of GBNPP "*as constituted after consummation of the land exchange*." (emphasis supplied) By definition, the GBNPP after the land exchange will not include the portion of the Kahtaheena River area that includes the project.[42] If, as

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[36] Article 402.

[37] Article 418.

[38] 16 U.S.C. § 3101(b).

[39] 16 U.S.C. § 3101(b).

[40] Sierra Club September 22 comments at 4-5, *citing* the final EIS at 3-80 and 3-81.

[41] Sierra Club September 22 comments at 4-5.

[42] The boundaries of the lands on which the project could be located are specifically set forth in section 3(b)(1) of the Boundary Act.

Sierra Club suggests, the removal of wilderness lands from GBNPP pursuant to the land exchange is an adverse impact, then there is no circumstance under which the Commission could find that the project has no adverse impacts on GBNPP. Congress clearly did not intend such an anomalous result.

26. We also do not agree that designation of other lands within GBNPP as wilderness to compensate for the removal of the Kahtaheena River area wilderness lands is inadequate compensation for the loss of "unique" wilderness recreation opportunities. First, it is clear from its enactment of the Boundary Act that Congress is satisfied that the character of the specified lands outside of the Kahtaheena River area qualifies them lands for designation as wilderness. Second, the frequency and nature of recreational visits to the Kahtaheena River area where the project would be located indicates that whatever uniqueness may be ascribed to that area, it attracts few visitors. Although the data is imperfect, it appears that fewer than 150 people visit the shoreline area each year and, of these, fewer than 50 visit the Lower Falls, and a very small number visit the Upper Falls.[43] The upland regions are accessible to very few people because of steep slopes, dense vegetation, and a lack of trails.[44]

27. Sierra Club also suggests that the wilderness quality of the Kahtaheena River area is superior to that of the GBNPP lands which would be newly designated as wilderness. In this connection, it states that motor boats can be seen and heard from one of the islands identified as an area that could be redesignated as wilderness.[45] As noted above, however, a large majority of visitors to the Kahtaheena River area never leave the beach. The river mouth is about four miles from Gustavus airport. Visitors are therefore likely to see and hear many small planes, which are very common in coastal Alaska.[46] They may also see and hear cruise ships from Juneau, and tour boats from Gustavus, which pass this point on their journey to Glacier Bay and back. Even if the project is

[43] Final EIS at 4-164. Access to the Kahtaheena River by recreationists can be had only by walking along the shoreline at low tide. Visitors must walk through the forest to visit the falls, as there are no trails. EIS at 3-69.

[44] Final EIS at 4-167.

[45] Sierra Club September 22 comments at 4.

[46] The GBNPP website states that several air taxi companies provide daily small-plane flights year-round from Juneau to Gustavus, and that flights leave from Gustavus to other coastal towns. It also discusses cruise ships and tour boats.

built, moreover, GBNPP and the surrounding region will continue to abound in wilderness recreation opportunities.[47]

28. Sierra Club also overstates the potential for the spillover effects of hunting, trapping, and off-road vehicle use attributable to construction of the project access road to adversely affect the GBNPP purpose of preserving wildlife populations and habitat. The EIS finds that increased human access to the project area "could influence the behavior of some wildlife species in the watershed over a long period of time" and that "direct mortality to wildlife could occur if hunting and/or trapping are allowed on the exchange lands."[48] It also finds, however, that the majority of the effects would occur on the lands exchanged to the state and that "any impacts to wildlife species and their habitat within GBNPP would be short-term and localized."

29. Sierra Club asserts that Boundary Act section 3(c)(4) makes the land exchange a condition precedent for the issuance of license.[49] In fact this section states:

> A condition of the license to construct and operate any portion of the hydroelectric power project shall be the completion, prior to the commencement of construction, of the land exchange described in this Act.

There would obviously be no need for such a license condition if the land exchange preceded issuance of a license. Not only does the plain language of this section contradict Sierra Club's assertion, but section 2(a)(1) provides for the Secretary to complete the land exchange "no later than 6 months after the issuance of a license."

30. Finally, the Secretary's letter of concurrence states that the minimum amount of land required for the construction and operation of the project may be less than the amount of land to be exchanged to Alaska pursuant to section 2(a), and that the Secretary and Alaska have not yet made a determination of the parcels to be exchanged. The Secretary also requests that the license include a statement that the land necessary for

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[47] Final EIS at 3-67 to 3-68.

[48] Final EIS at 4-128.

[49] Sierra Club September 22 comments at 2-3.

construction and operation of the project does not include all of the land to be exchanged and that additional land is necessary for the exchange to ensure that it is consistent with sound land management principles.

31. The final EIS finds that to be consistent with sound land management principles, the amount of land exchanged from GBNPP to Alaska should be approximately 1,050 acres.[50] It is not however appropriate for the license to include any requirements pertaining to the amount of land to be included in the land exchange, as that is a matter section 2(a)(1) of the Boundary Act places solely within the authority of the Secretary and Alaska.

B. Comprehensive Development

32. Many intervenors and commenters oppose issuance of a license for the project. These opponents' principal concern is that the project will be sited on land now located in GBNPP and designated as wilderness. They believe that it is not in the public interest for lands to be removed from GBNPP for the benefit of a private developer and are concerned that the project will have a detrimental impact on GBNPP natural or cultural resources in the project vicinity.[51] Some also raise questions concerning the economic feasibility of the project.

33. We note initially that Congress has determined, by enacting the Boundary Act, that a license may be issued if the land exchange is completed and other elements of that act discussed above are satisfied. We have already made the determinations required by the Boundary Act with regard to effects on GBNPP, the minimum amount of land

[50] Final EIS at 6-33 to 6-35. Under the Maximum Boundary Alternative considered in the final EIS, the entire 1,145 acres of land identified in Boundary Act section 3(b) as potentially available for development of a hydroelectric project would be transferred to the state, and all of the transferred lands plus 42 acres of existing state and private land would be within the project boundary. The final EIS recommends that the lands removed from GBNPP should be the lands considered under the Maximum Boundary Alternative. However, about 95 acres in the upper portion of the Kahtaheena River area would not be removed from GBNPP because it is not needed for construction and operation of the project. That leaves 1,050 acres. Final EIS at 2-12 and 2-13.

[51] *See*, *e.g.*, motions to intervene of Sierra Club, Wilderness/Hoonah, Mills, and McKinley, and comments on the draft EIS of Friends of Glacier Bay, Hoonah, and Sierra Club.

necessary for the project, and compliance with the National Historic Preservation Act (NHPA). We find below that the project proposal is economically feasible.

34. What remains to determine is whether the project proposal satisfies the comprehensive development and public interest standards of FPA sections 4(e) and 10(a)(1).[52] Based on our independent review and evaluation of the Falls Creek Project as proposed by Gustavus, the no-action alternative, the comments and recommendations from the resource agencies and other participants, and the information and analyses set forth in the final EIS, we conclude that the Falls Creek Project as proposed by Gustavus, with staff's recommended measures, will be best adapted to the comprehensive development of the Kahtaheena River for beneficial public uses. The project will provide a reliable supply of energy at a predictable cost to an isolated community that currently depends entirely on generating facilities fired by diesel fuel, the price of which is highly volatile.

35. The license contains many requirements for environmental mitigation and protection, which will minimize the project's environmental impacts. These include:

- Protection for wildlife, anadromous fish, and their habitat, with restrictions on siting of facilities and the timing of construction;
- Run-of-river operation, minimum flow, and ramping rate requirements;
- Facilities and operation requirements to ensure safe fish passage;
- Siting and design of project structures to minimize their visibility and blend in with natural surroundings;
- Notification to agencies of any non-compliance events;
- Access to the project by resource agency personnel; and
- Annual consultation with fish and wildlife agencies to review study results, monitoring plans, and project operations that affect fish and wildlife.

In addition, the license requires Commission-approved plans for:

- Sediment transport monitoring and management;
- Erosion control;
- Construction period water quality monitoring;
- Evaluating the effectiveness of fish passage facilities;
- Evaluating project impacts on fisheries;

[52] 16 U.S.C. §§ 797(e) and 803(a)(1).

- An Environmental Compliance Monitor during construction;
- Monitoring and compliance with streamflow requirements;
- Prevention and remediation of fuel and hazardous substance spills;
- Avoidance of bear-human conflicts;
- Avoidance of and mitigation of impacts to wetlands;
- Management of the access road;
- Controls on public access and recreation; and
- Management of project lands.

36. We are confident that these license conditions will ensure that construction and operation of the project is carried out in the public interest. In the following sections, we discuss various issues raised by intervenors and commenters.

C. Need for Power

37. Gustavus' peak load is currently about 315 kW.[53] This load is served by diesel units 1, 2, 3, and 4, which are 250, 100, 300, and 500 kW, respectively. Unit 1 is the most efficient and therefore the first used, when it is available. Unit 3 is added to serve higher loads. Unit 4 is used for maintenance and back-up when Units 1 or 3 are not available. Unit 2 is also a back-up unit and is rarely used because of its advanced age and questionable reliability (34 years, with 300,000 hours of operation). [54]

38. Gustavus has historically experienced high load growth rates. During the period 1985-2003, Gustavus' generation increased at an annual rate of 8.4 percent, which is consistent with the rate of population growth. Gustavus projects future annual load growth averaging 3.9 percent, which is slightly less than the average since 1990, in which case its peak load (discounting potential sales to GBNPP) would be about 480 kW ten years after the project comes on line (2016).

39. Opponents of the project state that Units 1 and 3 could serve this load with a reserve margin of about 70 kW. They also suggest that Gustavus' load growth projections are excessive in light of declines in recent years in the area's traditional

[53] Preliminary Draft Environmental Assessment, Appendix D, Power Supply Study, October 2001.

[54] Final EIS at 1-2 and 1-3.

economic drivers, fishing, logging, and tourism.[55] Gustavus responds that the lower cost of hydropower will cause demand growth levels to increase.[56]

40. If Gustavus were connected to a transmission grid[57] the opponents' arguments would hold more weight. Gustavus, however, faces circumstances unique to isolated communities and to itself. There is reason to expect that its load will continue to grow and, at some point which no one can predict, the failure of one or more diesel generators would require additional generating capacity. Diesel fuel prices are also highly volatile. Under these circumstances, it seems prudent for Gustavus to have an alternative form of reliable generation with predictable costs in place.

41. Finally, Sierra Club suggests that if additional capacity is needed in the long term, it could be provided by alternative or renewable forms of energy.[58] For various reasons, these potential alternatives are less viable than hydropower at this time. A lack of high, consistent winds limits wind turbines to non-firm energy instead of dependable capacity. The project would provide dependable capacity nearly year-round, and for about half of the year would supply all of Gustavus' needs.[59] Fuel cells are still regarded as new technology, have very high capital costs, and would require additional infrastructure for propane storage and supply. The existing high cost of electricity in

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[55] *E.g.*, comments on draft EIS of Sierra Club at 5-6 and Exh. 1 at 3-4; Jed Davis; William Patrick Lee; and Craig Wilson.

[56] Gustavus comments on draft EIS at 22.

[57] It would be prohibitively expensive for Gustavus to connect its system to a transmission grid. The nearest transmission line, which is still under construction, is approximately 25 miles away and the cost of interconnection would exceed $26 million. EIS at 1-8.

[58] Sierra Club comments on draft EIS, Exh. 1 at 6-7, September 22 comments at 5-6.

[59] The project is expected to operate at full capacity and supply 100 percent of Gustavus' load from May through October. The remainder of the year, the project would divert for generation all of the streamflow in excess of the bypassed reach minimum flow requirement. The portion of Gustavus' load served by the project during the remaining months ranges from 59 to 95 percent. Diesel generation would make up the difference between hydroelectric power and system load. Final EIS at 2-4 and 2-5, 5-2, 5-9.

Gustavus[60] also likely results in significant conservation,[61] and there is nothing in the record to indicate that further conservation opportunities could have a substantial negative impact on probable load growth.

42. In its September 22 comments, Sierra Club charges that the final EIS does not sufficiently discuss why generation using tidal flow differs from the project, when both would have high capital costs, variable generation, and environmental concerns.[62] The record contains no useful information that would permit a comparison of the project to a hypothetical tidal generating facility. Although the southeast Alaska experiences wide tidal fluctuations, on the order of 15 feet in the vicinity of Gustavus,[63] no such facility has been proposed for this area. Sierra Club's only evidence in this connection is a one-page letter from a consultant that generally discusses the possibility. The letter indicates that it might be feasible to site free-flow turbines in deep tidal waters some 12 miles from Gustavus, and that such a project would also likely require storage batteries or stationary fuel cells to supplement the tidal turbines. It further states that "we can only guess at costs" and recommends further study.[64] In contrast, the capital costs and dependable generation potential of the proposed project can be estimated with reasonable certainty, and there is ample evidence in the record to analyze environmental issues.

[60] Gustavus' rates are about four times the statewide averages for residential and commercial customers. Final EIS at 1-3 to 1-5.

[61] *See* final EIS at 1-9; Comments of Gustavus on draft EIS at 22.

[62] Sierra Club comments on draft EIS, Exh. 1 at 6-7; September 22 comments at 5-6, *citing* final EIS at 1-7.

[63] *See, e.g.*, freetidetables.com, Alaska, Juneau, Glacier Bay, Bartlett Cove.

[64] *See* Sierra Club September 22 comments, Exh. 1, Appendix A.

D. Economic Feasibility

43. As noted previously, the Boundary Act provides that the land exchange may only occur if the Commission concludes that construction and operation of the project "can be accomplished in an economically feasible manner."[65]

44. The Boundary Act does not define the term "economically feasible." The final EIS analyzed economic feasibility by comparing the cost of generation from the project over a 30-year period to the cost of equivalent generation from a diesel-fueled facility. In this analysis, which is based on standard utility ratemaking practices, the project has a positive economic benefit if it costs less to construct and operate than equivalent diesel generation.

45. The analysis contains several variables, including Gustavus' system load growth, general inflation rates, diesel fuel inflation rates, diesel generation maintenance costs, interest, and the potential availability of grant money to defray capital costs.[66] Each of these variables was assigned a range of five values (low, low-middle, middle, high-middle, and high), with the middle value representing staff's conclusion regarding the most likely value for that variable. For instance, annual load growth values range from zero to 5.6 percent, with 3.5 percent as the middle value. Put another way, the lowest and highest values for each variable represent the least and most favorable assumptions for the project's economic feasibility, respectively. The net economic benefit of the project was calculated for each of the values in the range for each variable

[65] Section 2(c)(1)(C). Sierra Club reads this requirement, in conjunction with the requirement of section 2(c)(4) for the license to require a Commission-approved financing plan before construction can begin, to require the Commission to find in the license order that the project "is reasonably likely to secure a commercial loan, equity investment, or some other form of financing." *See* final EIS at D-209. We disagree. Original license orders do not include a finding that the project is likely to secure financing and we think if Congress wanted to impose such a requirement for this project it would have done so explicitly, as it did with the other project-specific requirements, rather than by inference.

[66] Final EIS pp. 6-23 to 6-31 and Appendix E, at E-1 to E-21. Gustavus suggests that part of the project might be financed with grant money. In this regard, Alaska Energy Authority states that it has allocated approximately $1,000,000 in grant money to the project, subject to further assessment and verification of the GBNPP load. Comments on draft EIS at 1.

in terms of present value, first year of positive annual net benefit, and the first year of cumulative positive net benefit. Because several commenters suggest that the project can only be economically feasible if it serves, in addition to Gustavus, the load of GBNPP's headquarters, these calculations were also made with and without the inclusion of GBNPP as a component of Gustavus' load.

46. The results of the analysis are summarized on final EIS Tables 6.1-2 and 6.1-3.[67] Table 6.1-2 shows net present values for the project without GBNPP included in the load ranging from negative $4,266,000 under the least favorable estimates for all variables to positive $4,786,000 using the most favorable estimates. Based on the middle value for all variables, the project has a positive net benefit of $1,521,000, with project power costing less than diesel generation nine years following the commencement of operation (2016), and the cumulative net benefit exceeding diesel generation 18 years after operations begin (2025).

47. If GBNPP is assumed to be included in Gustavus' load, the net benefit ranges improve from a low estimate of negative $2,876,000 to a high of positive $6,650,000, with a middle estimate of positive $3,057,000, with a cost advantage relative to diesel generation first appearing two years following commencement of operation (2009), and a cumulative positive net benefit appearing four years after project operations commence (2007).[68] These results indicate that the project is economically feasible.

48. Some commenters claim that the analysis should include indirect costs; that is, costs that these commenters believe would be incurred by others if the project is built. Sierra Club, for instance, states that if project power is sold to GBNPP, it could cause GBNPP to abandon its existing diesel generators, and that this "stranded cost" should be treated as a cost of the project.[69] Other such costs include road repairs or improvements

[67] Final EIS p. 6-28.

[68] Table 6.1-3, final EIS at 6-28. The Alaska Energy Authority performed an independent analysis and concluded that the project would realize a cumulative net benefit of about $2.5 million over a 30-year period with GBNPP load. Comments on draft EIS at 2 and attachment thereto.

[69] Sierra Club comments on draft EIS at 5.

necessitated by construction traffic, the risk of trespass and property damage to Native allotments from greater public access to the project area, and construction-related harm to a local tourism-dependent business.[70]

49. The Boundary Act requires us to determine if construction and operation of *the project* is economically feasible. Thus, the kinds of indirect costs listed above are only appropriately included in a feasibility analysis to the extent the Commission determines that they would occur and that the license should be conditioned to require the licensee to bear any associated mitigation costs. We have done so with regard to the cost of road repairs,[71] and this expense is included in the feasibility analysis.[72] As to GBNPP's diesel generators, we decline to speculate on how that equipment might be used if NPS does purchase project power for GBNPP and, in any event, we assume NPS will make that purchase only if it determines that it needs the power after having fully considered all potential financial consequences. It would be inappropriate for the licensee to bear any costs resulting from NPS' decisions in this regard. As discussed below,[73] we conclude that the potential for adverse impacts to Native Allotments and local business are minimal and are requiring mitigation measures to further reduce the potential for harm. The costs of those measures are included in the economic analysis. [74]

50. Sierra Club contends that if the project requires the GBNPP load to be economically feasible, the feasibility analysis should include the cost of constructing a transmission line to GBNPP.[75] In this regard, we note first that any decision by NPS to

[70] Comments on draft EIS of Friends of Glacier Bay at 3, Sierra Club at 7, and the form letter filed by numerous individuals.

[71] *See* discussion below in Section O, Other Issues, and Article 417.

[72] Final EIS at E-9.

[73] *See* Section O, Other Issues.

[74] *Id*.

[75] Sierra Club comments on draft EIS at 7; Sierra Club September 22 comments at 6-7.

purchase project power will presumably rest on a determination by the federal government that it would be advantageous to do so. It is therefore entirely possible that the federal government, rather than Gustavus, would bear the costs of interconnection.[76] More important, as discussed above, the analysis shows the project to be economically feasible even if none of the power is sold to NPS.

51. Sierra Club also suggests that the economic analysis should quantify and include in project costs any measures that the Secretary may require after the license is issued to mitigate new-found harm to GBNPP.[77] It is, however, impossible to identify any such future measures or estimate what they might cost. Moreover, NPS has participated fully in this proceeding from the beginning and is a joint-preparer of the NEPA document, the license includes extensive conditions for protection of the environment, and the Secretary has concurred with our finding that the project will not adversely impact the purposes and values of GBNPP.

52. Sierra Club also criticizes the final EIS' economic analysis because it does not include depreciation and a return on rate base.[78] Depreciation is accounted for in the computation of federal taxes, which are one of the cost components of the economic analysis.[79] There is no return on rate base cost component because Gustavus proposes to finance the project entirely with debt.[80]

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[76] Gustavus also suggests that if GBNPP does not purchase project power, it would file an application to amend the license by reducing the generating capacity from 800 kW to 600 kW. Comments on draft EIS at 18.

[77] Sierra Club comments on draft EIS at 6. *See also* Boundary Act section 3(c)(3) and implementing Article 419.

[78] Sierra Club comments on draft EIS at 7.

[79] Final EIS at D-55.

[80] It is standard utility ratemaking practice for assets that are entirely financed with debt for the debt to be paid down at the same rate as the asset is depreciated. In these circumstances, there is no equity investment on which to earn a return.

Gustavus states that the Alaska Industrial Development Agency and Alaska Energy Authority have earmarked $1 million for a loan for the project, and that Gustavus would be eligible for loans from the Rural Utilities Service within the U.S. Department of Agriculture. Gustavus comments on draft EIS at 16.

53. The draft EIS assumed that Gustavus' electric demand through 2016 would match historic demand growth for the period 1985-2002. Sierra Club criticized this assumption on the basis that load growth figures from 1997-2004 are much lower than those for 1985-2002 and a regional slow-down of recreational travel could also negatively affect future growth.[81] Whether the lower rates of recent years will continue and, if so, for how long, is a matter of conjecture, particularly in the context of a 30-year analysis. To account for the possibility of continued lower growth rates, however, the final EIS uses load growth rates of zero and one percent for the low and low middle values for this variable, respectively.[82]

54. In its September 22 comments, Sierra Club asserts that the load growth estimates may be too high because construction of the project would cause retail electric rates in Gustavus to rise, and that this may cause customers to increase conservation measures or self-generate. Its evidentiary showing in this regard consists of a statement by one intervenor, who purports to speak as well for other unidentified business owners, that he and they would not be willing to pay higher rates attributable to costs of the project.[83] This is, of course, always a possibility, but Sierra Club's evidence is insufficient to support a conclusion that the cumulative effect of any such defections are likely to have a material adverse effect on system load growth.

55. Sierra Club also thinks the final EIS underestimates the risks associated with a 100 percent debt financing, the size of the project relative to the existing load and customer base, and the lack of connection to a regional transmission grid. It states that the discount rate should be higher than the 5.5 percent used in the analysis, and that using a higher rate will show lower economic benefits.[84] The risks posed by these factors are difficult to quantify with any degree of certainty. We think the most important risk is the

[81] Sierra Club comments on draft EIS, Exh. 1 at 3-4.

[82] *See* final EIS at E-10 and 11.

[83] Sierra Club September 22 comments at 8.

[84] Sierra Club September 22 comments at 7.

effect of the local economy on Gustavus' customer base, which directly impacts load growth. Gustavus' load growth estimates are not unreasonable, and the economic analysis addresses uncertainty in this regard by including a range of potential load growth scenarios.[85]

56. Finally, Sierra Club contends that the economic analysis should have assumed a much later date for commencement of operations because there is no urgent need for new generating capacity, the analysis does not show a net economic benefit under the "most likely" scenario until 2016, and deferral of the start date would allow for load growth and inflation of diesel fuel costs to improve the net benefit calculation.[86] The import of this argument is that the application should be denied. A determination of economic feasibility for a project such as this necessitates a long-term analysis. If the project has a net economic benefit over the term of the feasibility analysis, then the particular year in which it is estimated to have a positive net benefit compared to the diesel fuel alternative is of no import.

E. Native American Concerns

57. The Hoonah Indian Association (Hoonah), a federally-recognized Indian tribe, opposes the project. Hoonah states that the Glacier Bay area is the ancestral home of the Huna Tlingit People, who continue to have a spiritual and cultural connection to it, and that preservation of wilderness designation is important to their continued access to subsistence resources and traditional opportunity. Hoonah adds that NPS has in recent years acknowledged the Huna People's connection to this place and committed to protect it, and that the exchange of lands to the state for private development purposes is a violation of that commitment. Hoonah further states that its ancestral home has been recognized by the United Nations as a Biosphere Reserve and World Heritage Site.

[85] In any event, if lenders or other potential financial backers conclude that these elements of risk are too great, they will not fund the project and it will not be built.

[86] Sierra Club September 22 comments at 6.

Finally, Hoonah disagrees with the EIS' determination that the project would not affect any traditional cultural properties.[87]

58. The Glacier Bay region includes many millions of acres, over three million acres of which are located within GBNPP. The project facilities will occupy approximately 100 acres, and the Boundary Act's requirements for the land exchange ensure that the amount of land designated as wilderness will not be diminished.[88] In addition, the lands conveyed by the United States to Alaska will be offset by the conveyance of lands by Alaska to the United States. These could include lands owned by Alaska within Wrangell-Elias National Park and Preserve,[89] which Hoonah states is also part of the Huna Peoples' ancestral home.[90] In these circumstances, and in light of the many environmental protection measures required by the license, we conclude that the project as licensed will have a *de minimis* impact on the region's wilderness lands.

59. There are two Native allotments[91] in the project area. The George Allotment is approximately 12 acres and the Mills Allotment is approximately 39 acres. Portions of both were logged in 1974. These allotments are currently surrounded by land within

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[87] Comments of Hoonah on draft EIS at 1-3. As noted in Section M, Cultural Resources, *infra*, Commission staff found in the final EIS that there are no properties included in or eligible for inclusion in the National Register of Historic Places (which by definition includes traditional cultural properties) that the project could affect. There is no specific information in the record to rebut this conclusion. Nevertheless, we are requiring that construction or project operations cease and that local Indian tribes be promptly notified if such properties are discovered.

[88] For this purpose, section 2(b) of the Boundary Act requires the Secretary to designate as wilderness one or more of three islands located in Glacier Bay National Park.

[89] Boundary Act section 2(a)(2).

[90] Hoonah comments on draft EIS at 2.

[91] The Alaska Native Allotment Act of 1906, 34 Stat. 197, as amended, 42 Stat. 415 and 70 Stat. 954, 43 U.S. 270-1 through 270-3 (1970), provides for Native Alaskans to establish ownership of property under United States law. Pursuant to this law, many parcels of land have been conveyed to Native Alaskans. In many cases, descendants of the original allottees continue to own the land.

GBNPP designated as wilderness which would be conveyed to the state as part of the land exchange, and managed for fish and wildlife. No project facilities would be located on the allotments. The project access road would be on the lands conveyed to the state and would, however, pass within about 100 feet of the edges of the allotments.

60. Heirs to the allotments who oppose the project state that they value the properties for their remote, undeveloped nature, and have no plans to sell either allotment.[92] They are also concerned that the access road will increase the likelihood of trespass and vandalism.[93] There appears, however, to be no unanimity in this regard. In her comments on the draft EIS, Priscilla Mooney states that she is a part owner of the Mills Allotment, that Thomas Mills does not speak for everyone with an interest in the allotment, and that she supports construction of the project and connection of the Mills Allotment to the project access road.

61. Gustavus does not propose to connect either allotment to the access road, and the extent to which it might contribute to trespass or vandalism on these allotments is speculative. The license moreover addresses this concern by requiring Gustavus to submit for Commission approval plans for managing land us within the project area,[94] management of the access road,[95] and controlling public access and recreation.[96]

F. Water Quality Certification

62. Under section 401(a)(1) of the Clean Water Act (CWA), the Commission may not issue a license for a hydroelectric project unless the state water quality certifying agency has issued water quality certification for the project or has waived certification.[97]

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[92] Final EIS at 3-97, 4-216, and D-57.

[93] *See*, *e.g.*, Motion to Intervene of Sophie and Dianne McKinley, filed January 6, 2004; Motion for Late Intervention by Thomas L. Mills and Patrick G. Mills, filed September 11, 2002.

[94] Article 416.

[95] Article 417.

[96] Article 418.

[97] 33 U.S.C. § 1341(a)(1). Certification (or waiver) is required in connection with any application for a federal license or permit to conduct an activity which may result in a discharge into U.S. waters.

By letter filed with the Commission on August 10, 1999, Alaska issued a blanket waiver of water quality certification for all Alaska hydroelectric projects.

63. Sierra Club contends that if a state waives certification, the Commission must nonetheless ensure that a project satisfies the state's water quality standards.[98] Section 401(a)(1) includes no such requirement. Rather, it requires the license applicant to provide a certification from the state and, if the state fails to timely act on the applicant's certification request, "the certification requirements . . . shall be waived."[99]

64. We have not included in this license a requirement to comply with state water quality standards.[100] The license does however include several measures that will protect water quality. These include instream flow restrictions to protect the fishery (Articles 403 and 404), plans for sediment transport monitoring and management (Article 409), erosion control (Article 410); water quality monitoring (Article 411), an Environmental Compliance Monitor during construction (Article 405), monitoring of and compliance with streamflow requirements (Article 406), prevention and remediation of fuel and hazardous substance spills (Article 412).

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[98] Sierra Club September 22 comments at 8-9.

[99] Section 401(a)(1) provides, in pertinent part:

> Any applicant for a Federal license or permit to conduct any activity including . . . the construction or operation of facilities, which may result in a discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates . . . that any such discharge shall comply with the applicable provisions of . . . this chapter. . . . If the State . . . fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) . . . the certification requirements of this subsection shall be waived with respect to such Federal application.

[100] As we have previously stated in this regard, where certification is waived, a licensee is not compelled to comply with state water quality standards unless the Commission includes such a requirement in the license. *See Wisconsin Electric Power Company*, 76 FERC ¶ 61,183 at 62,017 (1996) and *Mead Corporation*, 76 FERC ¶ 61,352 at 62,659-60 (1996).

G. Coastal Zone Consistency Certification

65. Section 307(c)(3)(A) of the Coastal Zone Management Act[101] states that after final approval of a state's shoreline management program by the U.S. Secretary of Commerce, any applicant for a federal license or permit to conduct an activity affecting land or water uses in the coastal zone of the state shall provide in the application a certification that the proposed activity complies with the state's program. At the same time it must furnish the state a copy of the certification with the supporting data. The state must notify the federal agency at the earliest possible time as to whether it concurs with or objects to the certification. If it fails to notify the federal agency within six months, its concurrence is conclusively presumed. However, the federal regulations implementing the CZMA provide that the six-month certification period does not begin to run until the state has received "necessary data and information," including information identified in the state's approved CZMP.[102]

66. Gustavus' application states that it has filed a consistency certification with the state. The state has not yet acted on that application. Alaska indicates[103] that it will process Gustavus' request based on a written agreement between Alaska and the Secretary identifying the lands to be exchanged and resolution of other matters, such as state water rights, which are ordinarily resolved after issuance of an original license.[104]

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[101] 16 U.S.C. § 1456(c)(3)(A).

[102] 15 C.F.R. § 930.60(a) (2004).

[103] Personal communication by telephone from Joseph Donohue, Alaska Coastal Management Program, Office of Project Management and Permitting, September 29, 2004. ADFG indicates that its recommendations made in the license proceeding will form the basis for conditions it will submit for the project to be consistent with the Alaska Coastal Management Program in the context of a Fish Habitat Permit to be part of any consistency certification. ADFG final comments, terms, and conditions, filed February 1, 2002.

[104] Standard form Article 5 gives the licensee five years to acquire all rights necessary to construct and operate a new project. *See* 54 FPC 1883 at 1884.

67. It is our practice not to issue licenses for hydroelectric projects until the state has issued certification or concurrence is conclusively presumed because certification conditions are often incorporated into license articles.[105] In order, however, to accommodate Alaska in the unique circumstances of this case (as noted, the Boundary Act contemplates that license issuance will precede the land exchange), we will issue the license subject to the condition that Gustavus may not commence construction until CZMA issues are resolved.[106]

H. Threatened and Endangered Species

68. Section 7(a)(2) of the Endangered Species Act of 1973 (ESA)[107] requires federal agencies to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened and endangered species, or result in destruction or adverse modification of designated critical habitat. Federally listed species that could occur in waters near the project area are the endangered humpback whale and the threatened Stellar's sea lion.[108] Commission staff found in the draft EIS that none of the proposed action alternatives would affect these species. No comments were filed in response.

I. Essential Fish Habitat

69. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act,[109] requires federal agencies to consult with the Secretary of Commerce (Secretary) regarding any action or proposed action authorized, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH) identified under that act. The Secretary may recommend measures for the protection of the EFH.

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[105] This is not always the case. Unlike the Clean Water Act, the CZMA does not require certification conditions to be incorporated into the license. *See Niagara of Wisconsin Paper Co.*, 79 FERC ¶ 62,095 at 64,150 (1997).

[106] *See* Article 426. This result is consistent with our regulations and practices governing natural gas pipeline certificates.

[107] 16 U.S.C. § 1536(a)(2).

[108] EIS Section 6.4.2.

[109] 16 U.S.C. § 1855(b)(2).

Section 305(b)(4)(B)[110] of that Act requires an agency, within 30 days after receiving recommended measures from NOAA Fisheries or a Regional Fishery Management Council, to describe the measures proposed by the agency for avoiding, mitigating, or offsetting the effects of the agency's action on the EFH. If the agency does not agree with the Secretary's recommended measures, it must explain its reasons for not following the recommendations.

70. On February 5, 2002, NOAA Fisheries filed its EFH conservation recommendations, which are also its recommendations made pursuant to FPA section 10(j). These recommendations are discussed below in the discussion of recommendations of federal and state fish and wildlife agencies.

J. Section 18 Fishway Prescriptions

71. Section 18 of the FPA[111] states that the Commission shall require construction, maintenance, and operation by a licensee of such fishways as the Secretaries of Commerce or the Interior may prescribe. The Commission's policy is to reserve such authority in a license upon the request of either designated Secretary.

72. By letters filed February 5 and 7, 2002, the Secretaries, acting through the U.S. Fish and Wildlife Service (FWS), and NOAA Fisheries, respectively, filed fishway prescriptions for the project. FWS' prescription provides for safe access to bypassed reach habitat, design of the tailrace to prevent fish from entering the project's draft tubes, and ramping rates.[112] NOAA Fisheries' prescription requires ramping rates. FWS' and NOAA Fisheries' fishway prescription are attached to this order as Appendices A and B.

73. The Commission recognizes that future fish passage needs cannot always be determined at the time of project licensing. The Commission's practice has been to include a license article that reserves to the Secretaries of the Interior and Commerce authority to prescribe fishways when they request such a reservation. The Secretary of the Interior requested a reservation of its authority. Therefore, consistent with Commission practice, Article 425 of this license reserves the Commission's authority to

[110] 16 U.S.C. § 1855(b)(4)(B).

[111] 16 U.S.C. § 811.

[112] A draft tube is a conduit through which water leaves the turbines and is returned to the waterway.

require the licensee to construct, operate, and maintain such fishways as may be prescribed by the Secretary of the Interior under section 18 of the FPA.

K. Section 4(e) Conditions

74. FPA section 4(e) provides that when the Commission issues a license for a project that will occupy a federal reservation, the Commission must include any conditions that the federal agency administering the reservation deems necessary for the adequate protection and utilization of the reservation. The Boundary Act waives any rights Interior might have had under section 4(e) to impose mandatory conditions with respect to the lands to be removed from GBNPP and conveyed to Alaska.[113]

L. Recommendations of Federal and State Fish and Wildlife Agencies

75. Pursuant to section 10(j)(1) of the FPA,[114] the Commission, when issuing a license, includes conditions based on the recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act,[115] for the protection and enhancement of fish and wildlife and their habitat affected by the project. The Commission makes a preliminary determination of whether the recommendations are consistent with the FPA or other applicable law. If there is a preliminary inconsistency determination, the agency in question is invited to meet with the Commission staff to try to resolve the matter prior to action on the license application.[116]

76. ADFG, FWS, and NOAA Fisheries made 24 recommendations within the scope of section 10(j).[117] By letter issued November 12, 2003, the Commission staff preliminarily determined that four recommendations (one each from FWS and NOAA Fisheries, and two from ADFG) were not consistent with the FPA or other applicable law.

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[113] Boundary Act section 3(c)(2).

[114] 16 U.S.C. § 803(j)(1).

[115] 16 U.S.C. § 661 *et seq.*

[116] *See* 18 C.F.R. § 4.34(e).

[117] *See* final EIS Section 6.2

77. The staff preliminarily determined that the recommendations of ADFG and NOAA Fisheries for a resource agency-approved watershed management plan may be inconsistent with the requirement that recommendations be supported by substantial evidence. Staff concluded that the resources that would be protected by such a plan are sufficiently protected by various plans (*e.g.*, erosion control, biotic evaluation, wetlands mitigation[118]) that must be submitted for Commission approval. ADFG responded by letter filed December 23, 2003 that the post-construction and operational plans required by the license adequately address its concerns in this regard. NOAA Fisheries did not respond.

78. The draft EIS also preliminarily determined that FWS' and ADFG's recommendations for interim minimum flows in the bypassed reach may be inconsistent with the comprehensive development standard of FPA section 10(a)(1) and the equal consideration standard of FPA section 4(e) because the benefits of the flow were not worth the cost. The bypassed reach was evaluated with respect to two resources, Dolly Varden trout and aesthetic flows. Gustavus recommended a minimum flow of 5-7 cfs. FWS and ADFG recommended interim seasonal minimum flows, which are very similar to one another, as follows:

	Dec. – April	May – Sept.	October	November
FWS	10	20	30	25
ADFG	10	25	30	25

The flows are considered to be interim because they would begin when project operations commence, and final flows would be determined after five years of data are available and hydrologic model and streamflow analyses are updated.

79. The draft EIS found that the population of Dolly Varden trout in the bypassed reach, which is isolated from other Dolly Varden trout below the impassable Lower Falls, has little value to subsistence, sport, or commercial fishing. Under any of the minimum flows, the bypassed reach population is likely to persist, but the FWS and ADFG flows provide much more habitat and are therefore likely sustain a greater portion of the current population. The project could also adversely affect stream aesthetics, particularly at the Lower Falls, as it would reduce streamflows by two to 23 cfs (2.6 to 30.5 percent of the

[118] Articles 410 (erosion control), 413 (biotic evaluation), and 415 (wetlands mitigation).

May-October mean flow),[119] It appears however that fewer than 150 people visit the stream annually, and only about 50 go as far up as the Lower Falls. The higher flows recommended by ADFG and FWS would reduce annual generation by about 378,000 kWh (18 percent) and 307,000 (15 percent), respectively, relative to generation under Gustavus' recommended minimum flows. This corresponds to an estimated reduction in power benefits, respectively, of about $48,000 and $39,000, more than the $27,440 cost of Gustavus' proposal.[120]

80. A teleconference was held on January 30, 2004 to discuss the recommended minimum flows. No significant new information or effects were identified at the meeting, and the final EIS continues to recommend adoption of Gustavus' recommended minimum flows.[121]

81. We adopt the final EIS findings on this issue. In light of the low value of this resource for subsistence, commercial, or recreational fishing; the improbability that operation of the project under Gustavus' proposed flows will result in the loss of any unique genetic traits associated with bypassed reach Dolly Varden trout; and the modest aesthetic impacts, we agree with the EIS that the benefits of ADFG's and FWS' minimum flow recommendations are outweighed by their cost in terms of project revenues and diminished generation and find that the fishery resource will be adequately protected by the requirements of this license.[122]

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[119] Final EIS at 4-151.

[120] Final EIS at 6-38 and 6-39.

[121] *Id.*

[122] The following articles would provide protection for Dolly Varden inhabiting the Kahtaheena River: Article 401 Final Environmental Design Plan; Article 402 Construction Period Protection Plan; Article 403 Run-of-River Operation; Article 404 Bypassed Reach Minimum Flow; Article 407 Fishway Monitoring and Maintenance Plan; Article 408 Fish Exclusion Monitoring Plan; Article 409 Bedload Monitoring Plan; Article 410 Erosion and Sediment Control Plan; Article 411 Water Quality Monitoring Plan; Article 412 Fuel and Hazardous Substances Plan; and Article 413 Biotic Monitoring Plan. Article 413 Biotic Monitoring Plan also reserves the Commission's authority to modify streamflow requirements, should that be necessary. Article 413, paragraph (d). The standard form fish and wildlife reopener article (Form L-15, Standard Article 1, 54 FPC at 1886, incorporated into this license in Ordering Paragraph (D)) could also be employed for this purpose.

M. Cultural Resources

82. Before it may issue a new license for the project, the Commission must comply with the consultation requirements of section 106 of the National Historic Preservation Act (NHPA) and the implementing regulations of the Advisory Council on Historic Preservation (Advisory Council).[123] As noted, the Boundary Act also requires the Commission to find, with the Secretary of the Interior's concurrence, that construction and operation of the project will comply with the requirements of the NHPA. As discussed above, the Commission has made the necessary finding and the Secretary has concurred.

83. The Commission also found that there are no properties that are included in or eligible for inclusion in the National Register of Historic Places that the proposed undertaking could affect. There may, however, be significant undiscovered properties in the project area that were not identified during Gustavus' surveys and which could be adversely affected by the project. The discovery of such properties is unlikely. We will however include a license article which provides that if any properties are discovered during the course of project construction or operation, work shall cease in the immediate area, and the Alaska SHPO and the Commission will be notified immediately. If any such properties are determined to be aboriginal, local Indian tribes will be notified, and consultation will occur pursuant to section 106 of the NHPA.[124]

N. Dam Safety

84. We classify the project as having a low hazard potential, based on the Commission's dam safety criteria and the following project-specific features: (1) the diversion dam would have a height of 10 feet and impoundment volume of 0.5 acre-feet; (2) the project would occupy undeveloped land; (3) there are no developed recreational facilities near the project; and (4) failure of the dam or penstock would not appear to pose a risk to life or property. Because of the low hazard potential, the project would not be subject to Part 12, Subpart D of the Commission's regulations.

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[123] 36 C.F.R. Part 800.

[124] Article 419.

O. Other Issues

85. The project access road would begin at the terminus of Rink Creek Road, a gravel road currently maintained by the residents, of which there are about 25, and which is currently passable for parts of the year only in four wheel drive vehicles. Residents are concerned that project construction activities, which are expected to take 24 months, would significantly increase wear and tear on the road.[125] The license, however, requires Gustavus to undertake any necessary maintenance and repairs.[126]

86. The only business that may be directly and adversely affected by project construction is the Bear Track Inn, which is located off of Rink Creek Road. The owners of the Inn are concerned that noise and dust from access road construction could negatively impact the experience of quiet and solitude for the Inn's guests.[127] Any disturbance should however be minimal, because timber clearing would occur between September and April, when the Inn is closed, and the Inn is located about 200 yards from the road.[128]

87. Article 405 implements the recommendation of ADFG, FWS, and NOAA Fisheries that Gustavus be required to engage an Environmental Compliance Monitor (ECM) to ensure compliance with required environmental measures during construction of the project. The ECM will have authority to issue cease work and change orders in the field in order to ensure that these measures are satisfied. ADFG and FWS recommend that the ECM be an on-site representative of the Alaska government who is qualified to issue or modify Alaska fish habitat permits.

88. Alaska Statutes Title 41 requires a Fish Habitat Permit from the Alaska Department of Natural Resources (DNR) for any activities within or across a stream used by fish, including construction of dams or diversions, if the DNR determines that such

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[125] Comments on Draft EIS of Chad Soitseth, Wayne Howell, William Patrick Lee, Craig Wilson, and Donald D. and Jeanie Farrel. *See* Final EIS at D-58.

[126] Article 417.

[127] Declaration of Mike Olney, Exh. 5 to Sierra Club comments on draft EIS.

[128] Final EIS at 4-216 and 217.

activities could impede the efficient passage of fish.[129] It would not be appropriate to require that the ECM be a representative of the state government authorized to issue such permits because Title 41 is preempted by the FPA with respect to jurisdictional hydroelectric projects.[130] Providing the ECM with authority to issue cease work orders and change orders in the field should ensure that Gustavus complies with the requirements to protect aquatic resources during construction.

89. ADFG also recommends that Gustavus be required to provide travel funding for an ADFG representative to inspect the project annually. The EIS finds,[131] and we agree, that this is unnecessary, as the Commission regularly inspects all licensed projects as part of its compliance monitoring responsibilities.

90. ADFG, FWS, and NOAA Fisheries recommend that the license provide unrestricted access for their staffs to the project. The Commission is responsible for ensuring compliance with the license. Nonetheless, access to the project by these agencies may be necessary and appropriate to assist the Commission to carry out its responsibilities. Accordingly, Article 421 requires the licensee to allow inspections of project facilities and records by resource agency personnel.

91. ADFG, FWS, and NOAA Fisheries request, and the EIS recommends approval of, a requirement that Gustavus be required to place into an interest bearing escrow account $50,000 to be used, if necessary, to remediate or mitigate unforeseen impacts on fish, wildlife, and water quality associated with project construction and operation.[132] We are not adopting this recommendation. As discussed above, the license contains a comprehensive set of requirements to prevent, minimize, and mitigate for the environmental impacts of the project. If unanticipated impacts should occur, ADFG, FWS, and NOAA Fisheries may request that the Commission reopen the license for the

[129] ADFG requested that an ADFG representative be appointed. At that time, fish habitat permits were issued by ADFG pursuant to Title 16 of the Alaska Administrative Code, Fish and Game. Responsibility for issuing the these permits has since been transferred to the Alaska Department of Natural Resources pursuant to Title 41, Public Resources. Personal Communication, Robin Willis, ADFG, Division of Sport Fisheries.

[130] California v. FERC, 495 U.S. 490 (1990).

[131] Final EIS at 6-14.

[132] Final EIS at 4-77, 6-13 and 6-14, 6-42.

purpose of requiring any additional measures to be taken. The standard form reservation of authority regarding impacts to fish and wildlife provides a vehicle to address most such potential impacts,[133] and Article 411 reserves authority to modify the license in order to protect water quality.

92. Finally, the project boundary proposed by Gustavus[134] would include an area of approximately 30 to 50 feet around project features. The EIS recommends a project boundary that includes a 200 foot buffer around project features. The purpose of this recommendation is to include within the project boundary, those lands that would most likely be affected during construction or operation of the project. Inclusion of these lands within the project boundary would provide additional assurance that the licensee would have access to any affected areas for any necessary remediation or mitigation. Our finding regarding the minimum amount of land necessary for the construction and operation of the project is based on the EIS' conclusions in this regard.[135] The 200-foot buffer zone requirement is reflected in Article 202.

P. Comprehensive Plans

93. Section 10(a)(2)(A) of the FPA[136] requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project.[137]

[133] *See* Form L-15, Standard Article 1, 54 FPC at 1886, incorporated into this license in Ordering Paragraph (E).

[134] *See* license application, Exhibit G.

[135] 108 FERC at 62,168.

[136] 16 U.S.C. § 803(a)(2).

[137] Comprehensive plans are defined at 18 C.F.R. § 2.19 (2004).

Federal and state agencies filed 31 qualifying comprehensive plans, of which we identified three Alaska[138] and two federal comprehensive plans[139] that are relevant. We did not find any conflicts.[140]

Q. License Term

94. Licenses are issued for terms not to exceed 50 years.[141] The Commission's practice is to issue a 50-year license for an unconstructed project that does not use an existing dam.[142] Consistent with that policy, we will issue Gustavus a 50-year license for the Falls Creek Project.

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[138] The applicable Alaska state plans are: (1) Catalogue of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes. 1998. Alaska Department of Fish and Game. Juneau, Alaska; (2) Atlas to the Catalogue of Waters Important for Spawning, Rearing, or Migration of Anadromous Fishes. 1998. Alaska Department of Fish and Game, Juneau, Alaska; and (3) Alaska's Outdoor Legacy: Statewide Comprehensive Outdoor Recreation Plan (SCORP) 1997-2002. Alaska Department of Natural Resources. Juneau, Alaska.

[139] The applicable federal plans are: (1) North American Waterfowl Management Plan. 1996. U.S. Fish and Wildlife Service and Canadian Wildlife Service; and (2) Fisheries USA: The Recreational Fisheries Policy of the U.S. Fish and Wildlife Service. Undated. U.S. Fish and Wildlife Service. Washington, D.C.

[140] We also identified three federal plans which are not comprehensive waterway plans but which are potentially pertinent to this proceeding: (1) Glacier Bay National Park and Preserve General Management Plan. 1984. Department of the Interior, National Park Service; (2) Wilderness Visitor Use Management Plan, Glacier Bay National Park and Preserve. 1989. Department of the Interior, National Park Service; (3) Alsek River Visitor Use Management Plan, Glacier Bay National Park and Preserve. 1989. Department of the Interior, National Park Service. The final EIS concludes that construction and operation of the project would have no effect on the planned uses of the GBNPP as constituted after the land exchange. EIS Section 6.3.2.

[141] 16 U.S.C. § 799.

[142] *See City of Danville, Virginia*, 58 FERC ¶ 61,318 at 62,020 (1992).

SUMMARY OF FINDINGS

95. The final EIS contains background information, analysis of impacts, and support for related license articles. The design of this project is consistent with the engineering standards governing dam safety. The project will be safe if designed, operated, and maintained in accordance with the requirements of this license.

96. Based upon a review of the agency and public comments filed on the project, and the staff's independent analysis pursuant to Sections 4(e), 10(a)(1), and 10(a)(2) of the FPA, we find that issuing a license for the Falls Creek Hydroelectric Project, with the required environmental measures and other special license conditions, will be best adapted to the comprehensive development of the Kahtaheena River for beneficial public uses.

The Commission orders:

(A) This license is issued to the Gustavus Electric Company (licensee) for a period of 50 years, effective the first day of the month in which the license is issued, to operate and maintain the Falls Creek Project No. 11659. This license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of this license, and subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, enclosed by the project boundary shown by Exhibit G filed on October 23, 2001 and as modified by Article 202:

Exhibit G Drawing	FERC No.	Description
G-1	11659-9	Project Map

(2) Project works consisting of: (1) an approximately 70-foot-long by 10-foot-high concrete diversion dam at river mile 2.4 and elevation 665 on the Kahtaheena River, containing a 36-foot-wide adjustable crest spillway section and a 10-foot-wide intake section, equipped with trash rack, fish screen and downstream fish passage; (2) a 0.5 acre reservoir with no useable storage; (3) a 9,400-foot-long, variable diameter (20- to 30-inch) water conveyance pipeline and penstock with segments above and below ground; (4) a 45-foot-long by 30-foot-wide, metal powerhouse containing: a single,

1,100-horsepower, horizontal axis, impulse turbine directly connected to an 800-kilowatt generator; a 20-cfs synchronous bypass system; and a control room; (5) a 5.0-mile-long, 15-kilovolt, buried transmission line from the station transformer to the existing powerhouse substation in Gustavus; and (6) appurtenant facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibit A and F shown below:

Exhibit A: The following sections of Exhibit A of the license application filed on October 23, 2001:

Sections 1, 2.1, 2.2, 2.3, 2.4, and 2.5 and Table A-1, entitled "Falls Creek Hydroelectric Project Tabular Description" describing the mechanical and electrical equipment.

Exhibit F: The following sections of Exhibit F of the license application filed on October 23, 2001:

Exhibit F Drawing	FERC No.	Description
F-1	11659-1	General Plan
F-2	11659-2	Access Road Typical Sections
F-3	11659-3	Diversion/Intake Structure Plan
F-4	11659-4	Diversion/Intake Structure Sections
F-5	11659-5	Power Plant Site Plan
F-6	11659-6	Power Plant Sections
F-7	11659-7	Power Conduit Profile
F-8	11659-8	One-Line Diagram

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project and located within the project boundary, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A, F and G described above and as modified by Article 202 are approved and made part of this license.

(D) The following sections of the Federal Power Act are waived and excluded from this license for this minor project: 4(b), except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license

of terms and conditions of the Federal Power Act that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the articles set forth in Form L-15 (published at 54 FPC 1883(1975)), "Terms and Conditions of License for Unconstructed Minor Project Affecting the Interests of Interstate or Foreign Commerce, and the following additional articles:

Article 201. *Administrative Annual Charges.* The licensee shall pay the United States the following annual charges, effective the first day of the month in which the license is issued, for the purposes of reimbursing the United States for the Commission's administrative costs, pursuant to Part I of the Federal Power Act: A reasonable amount as determined in accordance with provisions of the Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 800 kilowatts. Under the regulations in effect on the date this license is issued, projects with an authorized install capacity of 1,500 kilowatts or less will not be assessed an annual charge.

Article 202. *Project Boundary*. The project boundary shall include a 200-foot buffer from the following project features: the access road, the diversion dam and intake faculties, the water conveyance pipelines, and the powerhouse. The Exhibit G drawings shall be revised in accordance with this requirement and filed according to Article 203.

Article 203. *Exhibit Drawings.* Within 45 days of the date of issuance of the license, the licensee shall file the approved exhibit drawings in aperture card and electronic file formats.

(a) Three sets of the approved exhibit drawings shall be reproduced on silver or gelatin 35mm microfilm. All microfilm shall be mounted on type D (3-1/4" X 7-3/8") aperture cards. Prior to microfilming, the FERC Drawing Number (e.g., P-2576-1001 through P-2576-1084) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

Two of the sets of aperture cards shall be filed with the Secretary of the Commission, ATTN: OEP/DHAC. The third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland, Oregon Regional Office.

(b) The licensee shall file two separate sets of exhibit drawings in electronic format with the Secretary of the Commission, ATTN: OEP/DHAC. A third set shall be filed with the Commission's Division of Dam Safety and Inspections Portland, Oregon Regional Office. The drawings must be identified as (CEII) material under 18 CFR § 388.113(c). Each drawing must be a separate electronic file, and the file name shall include: FERC Project-Drawing Number, FERC Exhibit, Drawing Title, date of this license and file extension [*e.g.*, P-11659-####, G-1, Project Boundary, MM-DD-YYYY.TIF]. Electronic drawings shall meet the following format specification:

IMAGERY - black & white raster file
FILE TYPE – Tagged Image File Format, (TIFF) CCITT Group 4
RESOLUTION – 300 dpi desired, (200 dpi min)
DRAWING SIZE FORMAT – 24” X 36” (min), 28” X 40” (max)
FILE SIZE – less than 1 MB desired

Each Exhibit G drawing that includes the project boundary must contain a minimum of three known reference points, arranged in a triangular format. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown and identified on the drawing.

(c) The licensee shall file three separate sets of the project boundary vector data in a geo-referenced electronic file format (such as ArcView shape files, GeoMedia files, MapInfo files, or any similar format) with the Secretary of the Commission, ATTN: OEP/DHAC. The file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-11659, boundary vector data, MM-DD-YYYY.SHP]. The geo-referenced electronic boundary data file must be positionally accurate to ±40 feet in order to comply with National Map Accuracy Standards for maps at a 1:24,000 scale. A single electronic boundary data file is preferred and must contain all reference points shown on the individual project boundary drawings. The latitude and longitude coordinates, or state plane coordinates, of each reference point must be shown. The data must be accompanied by a separate text file describing the map projection used (i.e., UTM, State Plane, Decimal Degrees, etc), the map datum (i.e., North American 27, North American 83, etc.), and the units of measurement (i.e., feet, meters, miles, etc.). The text file name shall include: FERC Project Number, data description, date of this license, and file extension [e.g., P-11659, project boundary metadata, MM-DD-YYYY.TXT].

Article 204. *Headwater Benefits.* If the licensee’s project was directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits

were not previously assessed and reimbursed to the owner of the headwater improvement, the licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

Article 301. *Start of Construction*. The licensee shall commence construction of the project works within two years from the issuance date of the license and shall complete construction of the project within five years from the issuance date of the license.

Article 302. *Contract Plans and Specifications.* At least 60 days before starting construction of license-related construction activities, the licensee shall submit one copy to the Division of Dam Safety and Inspections – Portland, Oregon Regional Engineer (Regional Engineer) and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of a supporting design report and final contract plans and specifications, including final locations and measures identified in Article 401. The Commission may require changes to the plans and specifications to ensure the work is completed in a safe and environmentally sound manner. Construction may not commence until authorized by the Regional Engineer.

Article 303. *Quality Control and Inspection Program.* At least 60 days before starting any license-related construction activities, the licensee shall submit one copy to the Division of Dam Safety and Inspections – Portland, Oregon Regional Engineer and two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Quality Control and Inspection Program (QCIP) for the Commission's review and approval. The QCIP shall include the sediment and erosion control plan required by Article 410.

Article 304. *Cofferdam Construction Drawings.* Before starting any license-related construction activities, the licensee shall review and approve the design of contractor-designed cofferdams and deep excavations. At least 30 days before starting construction of the cofferdams, the licensee shall submit one copy to the Division of Dam Safety and Inspections – Portland, Oregon Regional Engineer and two copies to the Commission (one of these copies shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the approved cofferdam construction drawings and specifications and the letters of approval.

Article 305. *Temporary Emergency Action Plan.* At least 60 days before starting any license-related construction activities, the licensee shall submit one copy to the Division of Dam Safety and Inspections – Portland, Oregon Regional Engineer and

two copies to the Commission (one of these shall be a courtesy copy to the Director, Division of Dam Safety and Inspections), of the Temporary Emergency Action Plan (TEAP) for the Commission's review and approval. The TEAP shall describe emergency procedures in case failure of a cofferdam, large sediment control structure, or any other water retaining structure could endanger construction workers or the public. The TEAP shall include a notification list of emergency response agencies, a plan drawing of the proposed cofferdam arrangement, the location of safety devices and escape routes, and a brief description of testing procedures.

Article 306. *As Built Drawings.* Within 90 days of completion of construction of the facilities authorized by any article of this license, the licensee shall file for Commission approval revised Exhibits A, F, and G, as applicable, to describe and show those project facilities as built. The licensee shall file six copies with the Commission, one copy to the Division of Dam Safety and Inspections – Portland, Oregon Regional Engineer and two copies to the Commission (one of which shall be a courtesy copy to the Director, Division of Hydropower Administration and Compliance, Office of Energy Projects).

Article 400. *Financing Plan.* The licensee shall submit for Commission approval a plan to finance the construction, operation, and maintenance of the project. The plan shall include commitments from lenders, equity investors, or other sources of capital sufficient to ensure that construction of the project is completed. The Commission reserves authority to require changes to the plan. The plan shall not be implemented, and construction may not commence on any part of the project, until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 401. *Final Environmental Design Plan.* At least six months before the start of any land-clearing or land-disturbing activities, the licensee shall file with the Commission, for approval, a Final Environmental Design Plan. The plan shall provide specific descriptions of features incorporated into the final project design and measures that would be employed during construction to limit project effects on environmental resources, and shall include, at a minimum, descriptions of the following:

(1) final location of the powerhouse and tailrace to reduce effects on anadromous fish and their habitat;

(2) final location of the intake to avoid effects on productive Dolly Varden habitat;

(3) final design drawings of structures to provide flow continuation and avoid flow fluctuations from load following in the anadromous reach;

(4) final surveyed location of the access road to avoid effects on wildlife habitat;

(5) specific measures to be implemented to protect the pipeline from debris slides or from causing slope failures in steep areas;

(6) final surveyed location of roadways and transmission lines to avoid sensitive wildlife areas;

(7) final design drawings of structures to convey sediments downstream of the diversion dam;

(8) specific measures to be implemented to minimize wind throw within cleared areas; and

(9) specific measures to blend project structures, such as the powerhouse and diversion dam, with the natural surroundings and limit effects on the visual resources of the project area.

The licensee shall prepare the plan after consultation with National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and Hoonah Indian Association. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 402. *Construction Period Protection Plan*. At least six months before the start of any land-clearing or land-disturbing activities, the licensee shall file, for Commission approval, a plan to discourage construction personnel from hunting,

trapping, and fishing on lands within the project boundary. In addition, the plan shall also contain measures to discourage construction personnel from using ATVs on lands off the access road in the project area.

The licensee shall prepare the plan after consultation with the Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, and National Park Service. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted agencies to comment and to make recommendations before filing the plan for Commission approval. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on site-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 403. *Run-of-River Operation*. The licensee shall operate the project in a run-of-river mode for the protection of water quality, fishery resources, riparian habitat, and aesthetic resources of the Kahtaheena River.

The licensee shall at all times act to minimize the fluctuation of the impoundment surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream of the project tailrace together with flows as measured immediately downstream of the project dam approximate the sum of inflows to the project impoundment.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee and the U.S. Fish and Wildlife Service and Alaska Department of Fish and Game. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 404. *Bypassed Reach Minimum Flow*. The licensee shall release from the diversion dam to the bypassed reach a minimum flow of 5 cubic feet per second (cfs) or inflow to the project impoundment, whichever is less, from December 1 to March 31. The licensee shall release from the diversion dam to the bypassed reach a minimum flow of 7 cubic feet per second (cfs) or inflow to the project impoundment, whichever is less, from April 1 to November 30.

This flow may be temporarily modified if required by operating emergencies beyond the control of the licensee or for short periods upon agreement between the licensee and the U.S. Fish and Wildlife Service and Alaska Department of Fish and Game. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 405. *Construction Period Environmental Compliance Monitoring Plan*. At least six months before the start of any land-clearing or land-disturbing activities, the licensee shall file with the Commission, for approval, an Environmental Compliance Monitoring Plan (ECMP) to ensure that project construction adheres to the conditions of this license. The ECMP shall be developed in coordination with the Commission's Construction Quality Control Inspection Program.

The plan shall include, at a minimum:

(1) Provisions to employ a qualified environmental compliance monitor to be on-site during construction with authority to: (a) ensure compliance with the conditions of this license; (b) order cessation of work and change orders in the field, as deemed necessary; and (c) make pertinent and necessary field notes on monitoring compliance by the licensee;

(2) A position description of the compliance monitor, including qualifications, duties, and responsibilities;

(3) Provisions to hold a meeting between the licensee and the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and U.S. National Park Service once annually for each year of construction period compliance monitoring to:

(a) review and evaluate the results of all compliance monitoring activities and reports;

(b) make necessary adjustments of compliance monitoring to meet resource needs; and

(c) decide on continuation of compliance monitoring; and

(4) A provision to file with the Commission by December 31 of each year of construction period compliance monitoring, a report that summarizes the past year's compliance monitoring activities and any planned future monitoring activities.

The licensee shall prepare the plan after consultation with NOAA Fisheries, FWS and ADFG. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 406. *Operational Compliance Monitoring Plan*. At least six months prior to operating the project, the licensee shall file with the Commission for approval, an operational compliance monitoring plan. The plan at a minimum shall include:

(1) a provision to record bypassed reach flows immediately downstream of the diversion dam for the duration of the license;

(2) a provision to record the tailrace stage every 15 minutes for the duration of the license;

(3) a description of how the project would be operated to maintain compliance with the run-of-river requirement of Article 403, the minimum flow requirement of Article 404, the ramping rate requirement of Appendix A, Condition 3; and the flow continuation requirement of Article 401;

(4) a description of the type and exact locations of all flow and stage monitoring equipment and gages;

(5) an indication of the frequency of recording and a monitoring schedule;

(6) a provision to maintain a log of project operation and generation, including documentation of gaging and project operation and generation data and all unusual circumstances, such as load rejections and interruptions of all project operation and minimum flow requirements of this license;

(7) a provision for providing the gaging and project operation and generation data to the National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service (FWS), and Alaska Department of Fish and Game (ADFG), within 30 days of the specific agency's request for the data;

(8) a provision to notify the NOAA Fisheries, FWS, ADFG, and the Commission within 12 hours after becoming aware of any event of noncompliance with the minimum flow required by Article 404, but no later than 10 days after the beginning of any such noncompliance event; and

(9) an implementation schedule for the plan.

The licensee shall prepare the plan after consultation with NOAA Fisheries, FWS, and ADFG. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 407. *Fishway Maintenance and Monitoring Plan*. At least six months prior to the start of any land-clearing or land-disturbing activity, the licensee shall file with the Commission, for approval, a Fishway Maintenance and Monitoring Plan.

The licensee shall prepare the plan after consultation with FWS and the Alaska Department of Fish and Game. The licensee shall include with the plan, documentation of its consultation, copies of comments and recommendations made in connection with the plan, and a description of how the plan accommodates the comments and recommendations. The licensee shall allow a minimum of 30 days for the agencies to

comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to make changes to the plan. Upon Commission approval, the plan becomes a requirement of the license, and the licensee shall implement the plan, including any changes required by the Commission.

Article 408 *Fish Exclusion Monitoring Plan*. At least six months prior to operating the project, the licensee shall file with the Commission, for approval, a Fish Exclusion Monitoring Plan. The plan shall be designed to evaluate the effectiveness of the intake screen and tailrace features for excluding fish from these areas, and shall include, at a minimum, the following items:

(1) a list of the hydraulic design objectives for the intake screen and tailrace exclusion features;

(2) methods for verifying that the as built facilities achieve the hydraulic objectives for fish exclusion; and

(3) a schedule for implementation of the monitoring program.

The licensee shall prepare the plan after consultation with National Marine Fisheries Service, U.S. Fish and Wildlife Service, and Alaska Department of Fish and Game. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

If the results of the monitoring indicate that changes in project structures or operations are necessary to protect fish resources, the Commission may direct the licensee to modify project structures or operations.

Article 409. *Bedload Monitoring Plan*. At least six months prior to commencement of project operations, the licensee shall file with the Commission, for approval, a plan to annually monitor and manage bedload transport in the project area, including the timing and techniques for manually removing sediments from the impoundment and reintroducing these materials downstream of the diversion structure.

The licensee shall prepare the plan after consultation with the U.S. Fish and Wildlife Service and Alaska Department of Fish and Game. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 410. *Erosion and Sediment Control Plan*. At least six months before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, an erosion and sediment control plan. The plan shall be based on actual-site geological, soil, and groundwater conditions and on project design, and shall include, at a minimum, the following items:

(1) a description of actual site conditions;

(2) measures to control erosion, prevent slope instability, and minimize the quantity of sediment resulting from project construction, operation, and maintenance;

(3) measures to revegetate disturbed areas with indigenous plant species;

(4) detailed descriptions, functional design drawings, and specific topographic locations of all control measures;

(5) a provision to conduct all in-river activities below the Lower Falls (RM 0.5) from June 1 to August 7 and all in-river activities upstream of the Lower Falls from June 1 to September 15 and November 1 to April 30 to minimize potential adverse effects on aquatic resources;

(6) descriptions of how you would minimize the amount of land area disturbed during construction, select the appropriate size equipment and machinery for a given task, back-haul materials excavated from the stream canyon and powerhouse area to reduce the possibility of mass wasting, implement BMPs such as the use of landscape fabric, sediment fences, and prompt reseeding of disturbed areas, use control techniques such as wet suppression and wind speed reduction, determine when to cease construction activities because of high winds, identify and avoid removing trees having high potential for marbled murrelet nesting, identify and avoid felling trees and snags from May to August during murrelet and passerine nesting season, salvage topsoil and vegetation during construction and use these soils for revegetation of roadcuts and sidecast slopes, and monitor and limit establishment of noxious weeds such as giant knotweed and reed canary grass; and

(7) a specific implementation schedule and details for monitoring and maintenance programs for project construction and operation.

The licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and the U.S. National Park Service. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 411. *Water Quality Monitoring Plan*. At least six months before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, a water quality monitoring plan. The plan shall be designed to monitor the effectiveness of erosion and sediment control measures during project construction, and shall include, at a minimum, the following items:

(1) identification of sampling locations in the Kahtaheena River, upstream and downstream of all construction activities and discharge points for overland flows that cross construction areas and discharge into the river; and

(2) daily monitoring of turbidity within the Kahtaheena River from the initiation of construction activities until 60 days following the removal of temporary erosion control structures.

The licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and the U.S. National Park Service. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

If the results of the monitoring indicate that changes in mitigation measures are needed to protect water quality, the Commission may direct the licensee to implement additional measures.

Article 412. *Fuel and Hazardous Substances Plan*. At least six months before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, a fuel and hazardous substances plan. The plan shall be designed to help prevent and minimize any impacts associated with the handling of hazardous substances during project construction and operation, and shall include, at a minimum, the following items:

(1) contingencies with appropriate measures for containment and clean up in the event of an accident;

(2) designate specific areas for the maintenance of vehicle and equipment and refueling; and

(3) provisions to remove oil and other contaminants from condensate and leakage from the turbines and other equipment in the powerhouse.

The licensee shall prepare the plan after consultation with the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and the U.S. National Park Service. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 413. *Biotic Monitoring Plan*. At least six months before the start of any land-clearing or land disturbing activities, the licensee shall file with the Commission, for approval, a Biotic Monitoring Plan. The plan shall be designed to evaluate the effects of instream flow modifications and project construction and operation on fishery resources in the Kahtaheena River, and shall include, at a minimum, the following items:

(1) monitoring resident char populations until the project becomes operational;

(2) monitoring project effects on resident char populations for 5 years after commencement of project operations and subsequently thereafter should the minimum flows be modified;

(3) evaluation of flow and temperature conditions that cause ice formation in the bypassed reach, including descriptions of methods and assumptions used to assess these effects and identification of sites susceptible to anchor ice formation;

(4) counts of adult salmon escapement in the anadromous reach, including counts of pink and chum salmon from August 1 to September 21 and counts of coho salmon from August 15 to November 30;

(5) a schedule for providing monitoring results to National Marine Fisheries Service (NOAA Fisheries), U.S. Fish and Wildlife Service (FWS), and Alaska Department of Fish and Game (ADFG); and

(6) a schedule for implementation of the monitoring program.

The licensee shall prepare the plan after consultation with NOAA Fisheries, FWS, and ADFG. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

If the results of the monitoring indicate that changes in project structures or operations, including alternative flow releases, are necessary to protect fish resources, the Commission may direct the licensee to modify project structures or operations.

Article 414. *Bear-Human Conflict Plan*. At least six months before the start of any land-clearing or land-disturbing activities, the licensee shall file, for Commission approval, a plan to minimize bear-human conflicts. At a minimum, the plan shall contain measures to: (1) ensure food and garbage at project facilities are stored properly to avoid attracting bears; (2) educate construction workers, plant operators, and recreationists using the project area on how to avoid bears and how to react to a bear encounter; and (3) notify the Alaska Department of Fish and Game (ADFG) of any bear-human conflicts.

The licensee shall prepare the plan after consultation with ADFG and the U.S. Fish and Wildlife Service. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan

after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted agencies to comment and to make recommendations before filing the plan for Commission approval. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on site-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 415. *Wetland Mitigation Plan*. At least six months before the start of any land-clearing or land-disturbing activities, the licensee shall file, for Commission approval, a wetland mitigation plan. The plan shall contain measures to avoid and minimize the effects of project construction and operation on wetlands. For wetlands that cannot be avoided, the plan shall identify, at a minimum: (1) the estimated total acreage and various types of wetlands affected; (2) the location of any wetland restoration, creation or acquisition site(s) with respect to the project boundary; (3) any specific measures needed to create, modify, or maintain wetland hydrology; (4) a wetland planting program if needed; (5) ongoing monitoring and maintenance needs; and (6) a schedule for providing monitoring reports to the consulted agencies and the Commission.

The licensee shall prepare the plan after consultation with Alaska Department of Fish and Game, U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the U.S. Army Corps of Engineers. The licensee shall include with the plan documentation of agency consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the consulted agencies to comment and to make recommendations before filing the plan for Commission approval. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons based on site-specific information.

The Commission reserves the right to require changes to the plan. The plan shall not be implemented until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 416. *Land Management Plan*. At least six months before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, a land management plan. The land management plan shall be compatible with guidelines set forth in "Guidance for Shoreline Management Planning at Hydropower Projects," Federal Energy Regulatory Commission, April 2001. The licensee shall utilize "Northern Southeast Area Plan," Alaska Department of Natural Resources (ADNR), February 2002, as guidance toward preparing the land management plan. The plan shall include, at a minimum, the following items:

(1) a description of existing, proposed, and future land uses and use restrictions within the project boundary;

(2) appropriate maps or drawings of the project area that clearly show land uses, protected environmental areas, and designated buffer zones in relation to the project boundary and project facilities;

(3) a provision to provide, maintain, and manage a 200-foot buffer around all project features, including proposed management policies and practices;

(4) measures to control non-native plant species with a provision that herbicides or pesticides shall not be used except as allowed by the U.S. National Park Service (NPS) or appropriate State of Alaska agency; and,

(5) provisions for periodic monitoring of the project area under the land management plan throughout the term of the license and amendment of the land management plan subject to Commission approval in the event of proposals for land use not already authorized by the license.

The licensee shall prepare the land management plan after consultation with the Alaska Department of Fish and Game, ADNR, Alaska State Historic Preservation Officer, NPS, U.S. Fish and Wildlife Service, and the Hoonah Indian Association. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 417. *Road Management Plan*. At least six months before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, a road management plan. The road management plan shall be prepared in concert with Article 401 (Final Environmental Design Plan) and include, at a minimum, the following items:

(1) a discussion of how vehicles shall be limited on the Rink Creek Road access to those necessary to construct, operate, and maintain the Falls Creek Hydroelectric Project and after project construction how public use shall be accommodated;

(2) measures to remediate project-related impacts to Rink Creek Road and a discussion how the road shall be maintained, including estimated costs, after project construction; and

(3) measures (such as signs) to control unauthorized vehicle access to private land.

The licensee shall prepare the road management plan after consultation with the Alaska Department of Fish and Game, National Park Service, and National Marine Fisheries Service. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 418. *Public Access and Recreation Plan*. At least six months before the start of any land-disturbing or land-clearing activities, the licensee shall file with the Commission, for approval, a public access and recreation plan. The public access and recreation plan shall include, at a minimum, the following items:

(1) design drawings of signs and identification of where the signs shall be located;

(2) a description of brush clearing and trail maintenance to allow viewing access to the falls within the bypassed reach;

(3) measures to be implemented to control vehicular access to the project area;

(4) a provision for a recording and transmitting device (toll-free telephone number or website) to convey daily flow conditions in the bypassed reach to the public;

(5) a provision for updating the public access and recreation plan with the Commission in the event of proposals for recreation enhancements not required by the original license; and

(6) a schedule for implementation of the measures described in the public access and recreation plan.

The licensee shall prepare the plan after consultation with the Alaska Department of Fish and Game, Alaska Department of Natural Resources, U.S. National Park Service, National Marine Fisheries Service, U.S. Fish and Wildlife Service, and the town of Gustavus. The licensee shall allow a minimum of 30 days for the agencies and town to comment and to make recommendations before filing the plan with the Commission. The licensee shall include with the plan, documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. If the licensee does not accept a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. No land-disturbing or land-clearing activities shall begin until the licensee is notified by the Commission that the plan is approved. Upon Commission approval, the licensee shall implement the plan including any changes required by the Commission.

Article 419. *Cultural Resources*. The licensee, before starting any land-clearing or land-disturbing activities within the project boundary not specifically authorized by the license, shall consult with the Alaska State Historic Preservation Officer (SHPO) and the Hoonah Indian Association (HIA).

If any previously unidentified archeological or historical site is discovered during the construction or operation of the project, the licensee shall immediately cease all land-clearing or land-disturbing activity in the vicinity of the discovery and consult with the SHPO and HIA.

If consultation with the SHPO results in a determination that the site is a historic property within the meaning of section 106 of the National Historic Preservation Act and its implementing regulations, the licensee shall file for Commission approval a historic properties management plan. The plan shall be prepared by a qualified cultural resource specialist in consultation with the SHPO, and shall be based on the "Guidelines for the Development of Historic Properties Management Plans for FERC Hydroelectric Projects" (Advisory Council on Historic Preservation, Federal Energy Regulatory Commission; May 20, 2002). The plan shall include the following: (1) documentation of consultation with the SHPO; (2) a description of the discovered property, indicating whether it is listed on or eligible to be listed on the National Register of Historic Places; (3) a description of the potential adverse effects that have occurred, or could occur, on the discovered historic property; (4) any proposed measures for avoiding or mitigating such adverse effects; and (5) a schedule for completing any avoidance or mitigation measures. The Commission may require a cultural resources survey and changes to the plan based on the filing.

The licensee shall not begin land-clearing or land-disturbing activities, other than those specifically authorized in this license, or resume such activities in the vicinity of a historic property discovered during construction or operation of the project, until it has been informed in writing by the Commission that the requirements of this article have been fulfilled.

Article 420. *Annual Agency Consultation*. Within one year of the start of any land-clearing or land-disturbing activities and annually thereafter, the licensee shall consult with the Alaska Department of Fish and Game, National Marine Fisheries Service, and the U.S. Fish and Wildlife Service to review study results, monitoring plans, and project operations that affect fish and wildlife. Within 60 days of this consultation, the licensee shall file a consultation report with the Commission that contains meeting minutes or another form of documentation along with any proposals to change project structures or operations based on the results of this consultation.

Article 421. *Agency Access to Project Lands*. The licensee shall allow representatives of the National Marine Fisheries Service, U.S. Fish and Wildlife Service, Alaska Department of Fish and Game, and U.S. National Park Service in the performance of their official duties and upon appropriate advance notification and the showing of

proper credentials, free and unrestricted access to, through, and across project lands and project works during project operation and before and during construction of project facilities.

Article 422. *Use and Occupancy*. In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article.

If a permitted use and occupancy violates any condition this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use and occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are:

(1) landscape plantings;

(2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single family type dwellings;

(3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and

(4) food plots and other wildlife enhancement.

To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and

occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall:

(1) inspect the site of the proposed construction;

(2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site; and

(3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline.

To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of the standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

The licensee may convey easements or right-of-way across, or leases of, project lands for:

(1) replacement, expansion, realignment, or maintenance of bridges or roads there all necessary state and federal approvals have been obtained;

(2) storm drains and water mains;

(3) sewers that do not discharge into project waters;

(4) minor access roads;

(5) telephone, gas, and electric utility distribution lines;

(6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary;

(7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69 kV or less); and

(8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir.

No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for:

(1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained;

(2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained;

(3) other pipelines that cross project lands or waters but do not discharge into project waters;

(4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained;

(5) private or public marines that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina;

(6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and

(7) other uses, if; (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year.

At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Energy Projects, stating its intent to convey the interest and briefly describing the type of interest and

location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project, and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be change to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including

shoreline aesthetic values. Absent extraordinary circumstances, proposal to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 423. *Glacier Bay National Park and Preserve*. If, after this license is issued, the Secretary of the Interior identifies any adverse effects of the project on the Glacier Bay National Park and Preserve pursuant to section 3(c)(3) of the Glacier Bay National Park Boundary Adjustment Act of 1998, Public Law 105-317 (Oct. 30, 1998), the licensee shall file an application to amend the project license to implement appropriate mitigation measures after conducting consultation in accordance with the Commission's regulations in effect from time-to-time.

Article 424. *Land Exchange*. Construction of any part of the project shall commence only upon completion of the land exchange provided for in section 2 of the Glacier Bay National Park Boundary Adjustment Act of 1998, Public Law 105-317 (Oct. 30, 1998).

Article 425. *Reservation of Authority-Fishways*. Pursuant to section 18 of the Federal Power Act, authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or provide for the construction, operation, and maintenance, of such fishways as may be prescribed by the Secretary of the Interior.

Article 426. *Coastal Zone Consistency Certification*. The licensee shall not conduct any ground-disturbing activities until its request for consistency certification under the Alaska Coastal Management Program is resolved. The licensee shall, within 180 days from issuance of this license, file with the Commission complete information regarding the status of its request for a consistency certification. If the licensee receives a consistency certification from the state, it shall submit a copy of the same to the Commission. The Commission reserves authority to modify the license to include any conditions of such certification as license articles if the public interest so requires.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is final unless a request for rehearing is filed within 30 days from the date of its issuance, as provided in section 313(a) of the Federal Power Act. The filing of a request for rehearing does not operate as a stay of the effective date of this license or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this license.

By the Commission.

(S E A L)

Magalie R. Salas,
Secretary.

Appendix A

U.S. Department of the Interior, Fish and Wildlife Service
Fishway Prescription for Falls Creek Project No. 11659

1. A fish screen and bypass that meets the most recent National Marine Fisheries Service Northwest Region fish screening criteria shall be installed in front of the diversion intake to exclude the entrainment/impingement of fry-sized fishes. The intake shall be screened to prevent Dolly Varden char from accessing the penstock, and to allow safe access to habitat in the bypass reach. The facilities must be operable through the full range of flows diverted. An automatically operated cleaning system shall be included to clean the screen face as frequently as necessary to prevent the accumulation of debris.

2. The license shall keep the fishways in proper order and shall keep fishway areas clear of trash, logs, and other materials that would hinder passage. Anticipated maintenance shall be performed sufficiently before a migratory period such that fishways can be tested and inspected, and would operate effectively prior to and during the migratory periods.

3. In consultation with the U.S. Fish and Wildlife Service and Alaska Department of Fish and Game, the license shall develop a fishway maintenance and monitoring plan describing the anticipated maintenance, a maintenance schedule, proposed monitoring, and contingencies. The plan shall be submitted to the U.S. Fish and Wildlife Service for final review and approval, and the plan shall contain the consultation comments of these agencies. If any agency recommendation is not incorporated, the licensee's explanation shall be in the plan. Upon approval by the U.S. Fish and Wildlife Service, the licensee shall submit the plan t the Federal Energy Regulatory Commission for approval.

4. The project tailrace shall be designed and operated to exclude adult fish from entering the pipe transmitting water from the powerhouse to the stream.

5. Safe passage of fish, from shallow stream margins and side channels to water of adequate depth, shall be accommodated by limiting stream flow fluctuations downstream of the tailrace to one inch per hour or less. The "ramping rate" shall apply to all operations, including start-ups and shut-downs, and must be based on gaging through a control structure or narrow stream reach below the tailrace.

6. The Secretary of the Interior, as delegated to the U.S. Fish and Wildlife Service, hereby reserves authority to modify these prescriptions or prescribe additional

construction, operation, maintenance, or evaluation of fishways, as deemed necessary, including measures to further evaluate the need for fishways, and to determine, ensure, or improve the effectiveness of such fishways. This reservation includes authority to prescribe additional fishways for any fish species to be managed, enhanced, protected, or restored in the basin during the term of the license.

Appendix B

U.S. Department of Commerce, National Marine Fisheries Service Fishway Prescription for Falls Creek Project No. 11659

1. The timely installation of the prescribed fishway structures, facilities, or devices is necessary to ensure their effectiveness. National Marine Fisheries Service (NMFS) Prescription of Fishways therefore includes the express requirement that the licensee (1) notify, and (2) obtain approval from NMFS for any extensions of time to comply with the provisions included in the Prescription of Fishways.

2. Safe passage of fish to water of adequate depth from stream margins, side channels, and isolated pools shall be accommodated by limiting flow alterations downstream of the tailrace to one inch per hour or less. This ramping rate shall apply to all operations, including start-ups and shut-downs, and must be based on gauging readings through a control structure or narrow stream reach below the tailrace.